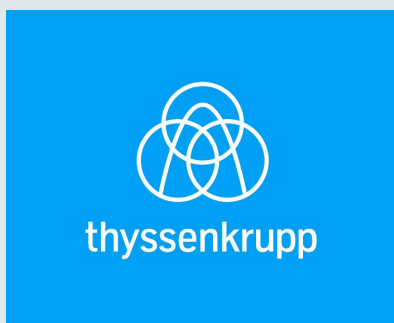


Optimized cleaning for maximum product quality

thyssenkrupp measures cleaner concentrations with Teqwave I



Roman Nägele
(Technical Project Leader)



thyssenkrupp Presta AG in Oberegg, Switzerland

In its Business Area Components Technology, **thyssenkrupp** produces and markets high-tech components for the automotive and mechanical engineering industries around the world.

"Using Teqwave I for parts cleaning enabled me to fulfill the stringent process requirements for accuracy and safety. Endress+Hauser has totally convinced me with the function, performance and technical design of this high-precision solution."

Roman Nägele
Technical Project Leader
ToolingCompetenceCenter
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Oberegg, Switzerland

Teqwave I from Endress+Hauser provides thyssenkrupp Presta AG with a new reliable solution for monitoring cleaning media in its spray and flood part cleaning machines.

Teqwave uses special sound waves to create an acoustic "fingerprint" of the high-quality cleaning media being used. This enables Teqwave to detect their concentration in cleaning baths continuously and with high precision.

The customer benefits

- Safeguarded process quality thanks to real-time measurement with high accuracy
- Quick reaction through immediate readjustment in case of changes in the cleaner concentration
- Simple and efficient operation of Teqwave I by thyssenkrupp employees
- Continuous measurement ensured – independent of the technical staff in charge at a given time

- Seamless monitoring and documentation in real time
- Minimum risk of errors, for example, as caused by writing down measured concentration values by hand

The challenge

The concentration of the cleaning medium used to be measured once a week by a trained and qualified specialist using an elaborate titration method. This process included documenting the measured concentration values, which are crucial in maintaining the desired process stability.

Both the measurements and the documentation were very time-consuming and made intensive use of consumables. In addition, the process of reading out measured values manually during titration and documenting them proved to be very error prone.

Our solution

With the installation of Teqwave I, the cleaning processes at thyssenkrupp can be carried out safely, more efficiently, and more cost-effectively:

- Continuous monitoring of density, concentration and temperature of the cleaning medium in real time
- Optional monitoring of a second concentration
- Direct on-site measurement in the plant – no time-consuming sampling for laboratory measurements
- Reliable, maintenance-free and long-term stable measuring technique with high accuracy



Teqwave I for on-site concentration measurement in real time

Part cleaning machine at thyssenkrupp. The concentration of the cleaning medium is measured using the built-in Teqwave I.

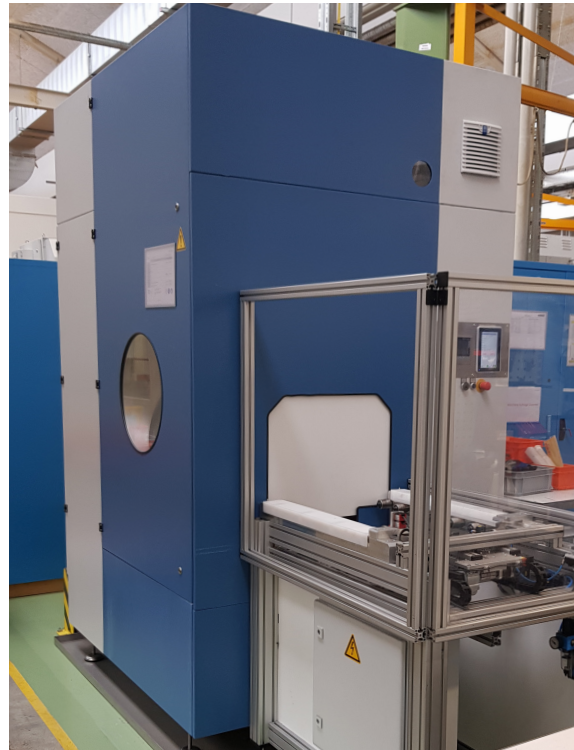


Cleaning medium

The cleaning medium being used is a high-quality product that makes it possible to clean components efficiently. It contains water, cleaning agents and corrosion protection agents.

Anti-foam agent

During the cleaning phase with liquids, foam may be developed, which can lead to considerable disturbances in the process flow. To prevent this, anti-foam agents with pronounced surface activity are used. The purpose of these agents is to destroy the existing foam immediately (spontaneous effect) and suppress new foaming (long-term effect). Anti-foam agents are non-toxic and are, for the most part, rapidly biodegradable.



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